

Australian Standard<sup>®</sup>

**Non-destructive testing—Terminology  
of and abbreviations for fusion weld  
imperfections as revealed by  
radiography**

**STANDARDS**  
Australia



This Australian Standard® was prepared by Committee MT-007, Non-destructive Testing of Metal and Materials. It was approved on behalf of the Council of Standards Australia on 14 May 2007.

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- Australian Aerospace Non-Destructive testing Committee
  - Australian Industry Group
  - Australian Institute for Non-Destructive Testing
  - Australian Nuclear Science & Technology Organisation
  - Australian Pipeline Industry Association
  - Bureau of Steel Manufacturers of Australia
  - Engineers Australia
  - National Association of Testing Authorities Australia
  - TestSafe Australia
  - Victorian WorkCover Authority
  - Welding Technology Institute of Australia
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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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RECONFIRMATION

OF

AS 4749—2007

**Non-destructive testing—Terminology of and abbreviations for fusion weld imperfections as revealed by radiography**

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Technical Committee MT-007 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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NOTES

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## PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee MT-007, Non-destructive Testing of Metals and Materials, to supersede AS 4749—2001, *Non-destructive testing—Terminology of and abbreviations for fusion weld imperfections as revealed by radiography*. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this revision, is to expand the current terminology for fusion weld imperfections.

It is the intention of the committee to align examples of macrographs with the existing radiographs in the next revision of the Standard.

This Standard is one of a series of Standards covering the range radiography.

### AS

- 2168 Non-destructive testing—Computerized radiography (in development)
- 2168.1 Part 1: Systems
- 2168.2 Part 2: Testing of metallic materials using X-ray and gamma rays
- 2177 Non-destructive testing—Radiography of welded butt joints in metal
- 2314 Radiography of metals—Image quality indicators (IQI) and recommendations for their use
- 3507 Non-destructive testing
- 3507.1 Part 1: Guide to radiography for ferrous castings
- 3507.2 Part 2: Radiographic determination of quality of ferrous castings
- 4749 Non-destructive testing—terminology of and abbreviations for fusion weld imperfections as revealed by radiography (this Standard)

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

## CONTENTS

	<i>Page</i>
1 SCOPE.....	4
2 REFERENCED DOCUMENTS.....	4
3 SURFACE IMPERFECTIONS IN THE WELD OR ADJACENT PARENT METAL.....	4
4 INTERNAL IMPERFECTIONS IN THE WELD.....	4
TABLE 1 SURFACE IMPERFECTIONS.....	5
TABLE 2 INTERNAL IMPERFECTIONS.....	10
APPENDICES	
A CODING OF IMPERFECTIONS AND THEIR LOCATION.....	19
B IMPERFECTION ABBREVIATIONS .....	20

## STANDARDS AUSTRALIA

## Australian Standard

**Non-destructive testing—Terminology of and abbreviations for fusion weld imperfections as revealed by radiography****1 SCOPE**

This Standard defines and describes weld imperfections using, where appropriate, schematic diagrams and reference radiographs as follows:

- (a) Surface imperfections in the weld or the adjacent parent metal.
- (b) Internal imperfections in the weld.

It also includes abbreviations for the imperfection types.

**NOTES:**

- 1 A scheme for the coding of imperfections and their location is given in Appendix A.
- 2 Methods of carrying out radiography on welded butt joints in metal are given in AS 2177.

**2 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard.

AS

2177 Non-destructive testing—Radiography of welded butt joints in metal

**3 SURFACE IMPERFECTIONS IN THE WELD OR ADJACENT PARENT METAL**

Descriptions of typical surface imperfections, in or adjacent to a weld, as revealed by radiography, are given in Table 1.

NOTE: A visual examination of surface imperfections revealed by radiography should be carried out, where possible, to assist interpretations.

**4 INTERNAL IMPERFECTIONS IN THE WELD**

Descriptions of typical internal imperfections in weld metal, as revealed by radiography, are given in Table 2.